

# Polar Covalent Bonding

Polar Covalent Bonding – involves the \_\_\_\_\_ of a pair of shared electrons

Polar Bonding occurs when the E.N. (electronegativity) difference is greater than .40

The electron pair being shared will be closest to the atom with the higher E.N.

Electronegativity Chart:

H 2.1																	He —		
Li 1.0	Be 1.5													B 2.0	C 2.5	N 3.0	O 3.5	F 4.0	Ne —
Na 0.9	Mg 1.2													Al 1.5	Si 1.8	P 2.1	S 2.5	Cl 3.0	Ar —
K 0.8	Ca 1.0	Sc 1.3	Ti 1.5	V 1.6	Cr 1.6	Mn 1.5	Fe 1.8	Co 1.8	Ni 1.8	Cu 1.9	Zn 1.6	Ga 1.6	Ge 1.8	As 2.0	Se 2.4	Br 2.8	Kr —		
Rb 0.8	Sr 1.0	Y 1.2	Zr 1.4	Nb 1.6	Mo 1.8	Tc 1.9	Ru 2.2	Rh 2.2	Pd 2.2	Ag 1.9	Cd 1.7	In 1.7	Sn 1.8	Sb 1.9	Te 2.1	I 2.5	Xe —		
Cs 0.7	Ba 0.9	La-Lu 1.1-1.2	Hf 1.3	Ta 1.5	W 1.7	Re 1.9	Os 2.2	Ir 2.2	Pt 2.2	Au 2.4	Hg 1.9	Tl 1.8	Pb 1.8	Bi 1.9	Po 2.0	At 2.2	Rn —		

\*\*\*Polar bonds will result in a polar molecule unless the shape of the molecule is \_\_\_\_\_

2 ways to indicate polar bonding:

Nonpolar Bonding – involves the \_\_\_\_\_  
of a shared pair of electrons

Nonpolar bonding occurs when the E.N. difference is .40 or less, or  
if the molecule is symmetrical in shape ( \_\_\_\_\_  
\_\_\_\_\_ )